

## O.Reg 243/07: Lead and Schools, Private Schools & Day Nurseries 2008 Report

In 2007, the province brought a regulation into force that requires water to be tested at the taps in all registered schools and private schools, and day nurseries built prior to 1990. These results are the outcome of a detailed analysis of thousands of tests taken during the second year of testing: May 1<sup>st</sup>, 2008 – October 31<sup>st</sup>, 2008.

### **1.0 General Information**

#### **1.1 What are the sampling & flushing requirements under O.Reg 243/07?**

During the 2008 sampling season, Ontario Regulation 243/07 required public schools, private schools, and day nurseries to undertake specific flushing and sampling requirements based on the age of plumbing within the facility, as shown in Table 1 below.

Table 1: O. Reg. 243/07 Requirements during the 2008 Sampling Season

Facility Type	Sampling Requirements			Flushing Requirements	
	Sampling Period	Before 1990*	1990 or Later**	Before 1990*	1990 or Later**
Public School	June 15 – Aug 15	Annual	Annual	Daily	Weekly
Private School	June 15 – Aug 15	Annual	Annual	Daily	Weekly
Day Nursery	May 1 – Oct 31	Annual	Not Required	Daily	Weekly

\* Refers to any facility in which any plumbing was installed prior to January 1 1990

\*\* Refers to any facility where all plumbing was installed on or after January 1 1990.

On December 14<sup>th</sup>, 2009, amendments to O. Reg. 243/07 came into effect that requires all facilities to sample between May 1<sup>st</sup> and October 31<sup>st</sup> each year. Day nurseries with newer (1990 or later) plumbing will have to start testing for lead in 2010. The changes also align flushing and sampling requirements with historical results for the individual facility. For full details see [www.ontario.ca/drinkingwater](http://www.ontario.ca/drinkingwater) under Lead and Drinking Water.

#### **1.2 What is the Ontario Drinking Water Quality Standard for lead?**

The Ontario Drinking Water Quality Standard (ODWQS) for lead is 10 micrograms per litre (µg/L). A test result that shows lead levels above this standard is considered to be an 'exceedance'.

### 1.3 What is the difference between a standing and flushed result?

Under the regulation, facilities required to sample must take two samples from a tap that provides water for consumption by children.

#### *Standing Sample*

- This sample is taken after a period of six (6) or more hours when the plumbing is not used, if practicable.
- This sample represents the quality of water that has been sitting in the plumbing overnight.

#### *Flushed Sample*

- After the standing sample is taken, the tap should be flushed for five (5) minutes; then turned off for 30-35 minutes.
- The flushed sample is taken after the 30-35 minute wait period.
- This sample represents the quality of water that would be consumed during the day with regular use of the water.

### 1.4 What does the province do if a school, private school, or day nursery has a result above 10 µg/L?

If a facility has a lead result (standing or flushed) above 10 µg/L, the lab that analyzed the sample is required to notify the operator of the facility, the ministry's Spills Action Centre, and the local Medical Officer of Health, and if applicable, their local interested authority (i.e. Ministry of Education or Ministry of Children and Youth Services).

Both the Ministry of the Environment and the local health unit will follow up with the operator to ensure appropriate corrective actions are taken. Under the regulation, the facility operator is required to follow the advice of the local Medical Officer of Health. This may include resampling, modifying their flushing protocol, and/or changes to plumbing within the building.

The Ministry of the Environment recommends resampling until two clean flushed results are received. These samples should be taken between 7 and 30 days apart. A provincial officer from the Ministry of the Environment will continue to monitor and track the progress of a facility's corrective actions until both the ministry and the local health unit are satisfied the issue has been resolved.

### **1.5 How do I find out the results for a specific school, private school or day nursery?**

Under the regulation, schools and day nurseries are required to retain their lead results for six years. Furthermore, the results must be made available to review upon request, by any member of the public during normal business hours. For lead results for a particular school or day nursery, please contact the facility operator.

### **1.6 How many facilities sampled in 2008?**

Overall, 9,802 facilities (public schools, private schools, and day nurseries) were registered and required to sample in 2008. The ministry has received results on behalf of 7,741 – or 79 per cent of all facilities.

The ministry continues to work with the regulated community to ensure all facility operators are fully aware of their regulatory requirements. In addition, several administrative issues resulted in difficulty in assessing compliance for some facilities. This includes the failure of some facility operators to submit their laboratory service notification form, and issues associated with the submission and proper identification of samples. In addition, the ministry continues to work with the regulated community on developing accurate and up to date lists for facilities that are co-located and sampling together.

## **2.0 Water Quality Results in Public Schools**

During the 2008 sampling period, 4,537 public schools submitted 11,552 drinking water samples for lead analysis. The results indicate the majority of schools had lead levels below the standard of 10 µg/L. The results, as shown in Charts 1 and 2, indicate the number of schools and percentage of facility with a maximum concentration of i) less than 10 µg/L, ii) between 10 – 30 µg/L , and iii) greater than 30 µg/L.

### ***Standing Results***

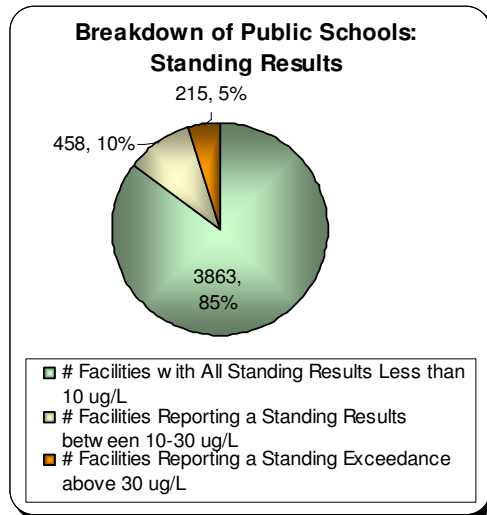
- Of the public schools submitting standing samples\*:
  - 85 per cent were below the Ontario Drinking Water Standard (ODWQS) of 10 µg/L for lead
  - 10 per cent had a maximum standing sample result between 10 – 30 µg/L
  - 5 per cent had a maximum standing result of greater than 30 µg/L

### Flushed Results

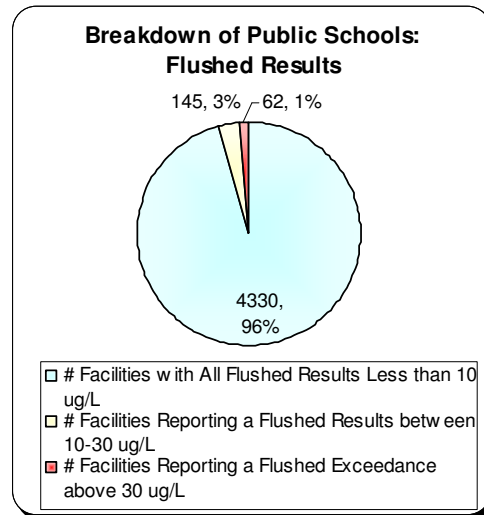
- Of the public schools submitting flushed samples\*:
  - 96 per cent were below the Ontario Drinking Water Standard (ODWQS) of 10 µg/L for lead
  - 3 per cent had a maximum flushed sample result between 10-30 µg/L
  - 1 per cent had a maximum flushed result of greater than 30 µg/L

\* For an explanation of standing and flushed samples, please refer to section 1.3.

**Chart 1: Standing Results**



**Chart 2: Flushed Results**



### **3.0: Water Quality Results in Private Schools**

In 2008, the ministry received 1,344 results from 529 private schools. The results indicate the majority of private schools had lead levels below the standard of 10 µg/L. The results, as shown in Charts 3 and 4, indicate the number of private schools and percentage of facilities with a maximum concentration of i) less than 10 µg/L, ii) between 10 – 30 µg/L, and iii) greater than 30 µg/L.

#### *Standing Results*

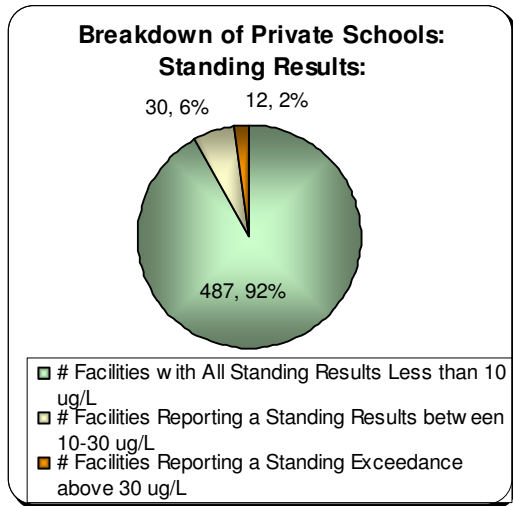
- Of the private schools submitting standing samples\*:
  - 92 per cent were below the Ontario Drinking Water Standard (ODWQS) of 10 µg/L for lead
  - 6 per cent had a maximum standing sample result between 10 – 30 µg/L
  - 2 per cent had a maximum standing result of greater than 30 µg/L

### Flushed Results

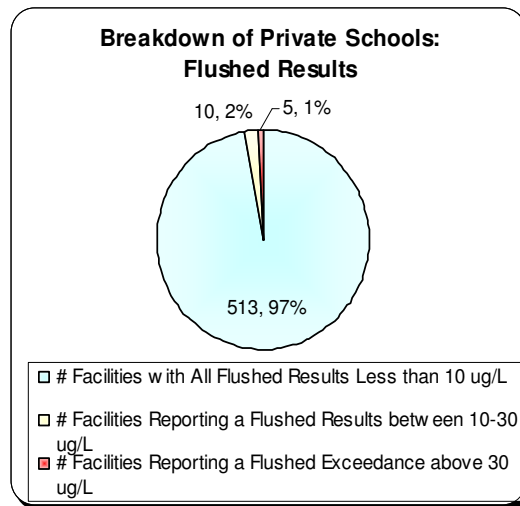
- Of the private schools submitting flushed samples\*:
  - 97 per cent were below the Ontario Drinking Water Standard (ODWQS) of 10 µg/L for lead
  - 2 per cent had a maximum flushed sample result between 10 – 30 µg/L
  - 1 per cent had a maximum flushed result of greater than 30 µg/L

\* For an explanation of standing and flushed samples, please refer to section 1.3.

**Chart 3: Standing Results**



**Chart 4: Flushed Results**



## 4.0 Water Quality Results for Day Nurseries

The ministry received 5,855 samples from 2,279 day nurseries across the province. The results indicate the majority of day nurseries had lead levels below the standard of 10 µg/L. The results, as shown in Charts 5 and 6, indicate the number of day nurseries and percentage of facilities with a maximum concentration of i) less than 10 µg/L, ii) between 10 – 30 µg/L, and iii) greater than 30 µg/L.

### Standing Results

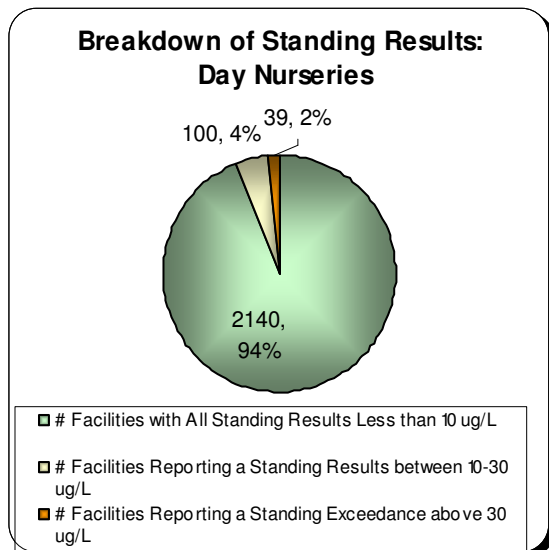
- Of the day nurseries submitting standing samples\*:
  - 94 per cent were below the Ontario Drinking Water Standard (ODWQS) of 10 µg/L for lead
  - 4 per cent had a maximum standing sample result between 10 – 30 µg/L
  - 2 per cent had a maximum standing result of greater than 30 µg/L

## Flushed Results

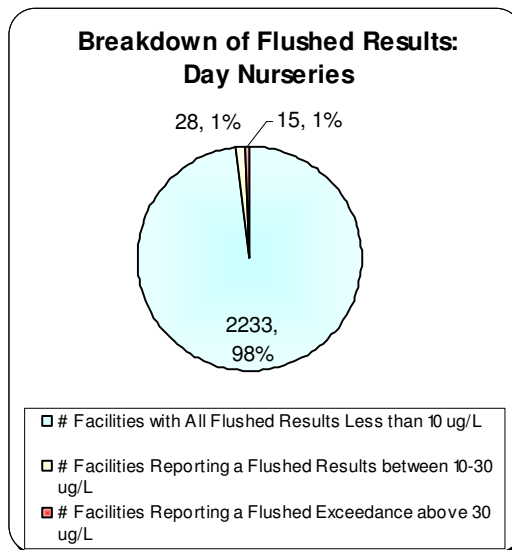
- Of the day nurseries submitting flushed samples\*:
  - 98 per cent were below the Ontario Drinking Water Standard (ODWQS) of 10 µg/L for lead
  - 1 per cent had a maximum flushed sample result between 10 – 30 µg/L
  - 1 per cent had a maximum flushed result of greater than 30 µg/L

\* For an explanation of standing and flushed samples, please refer to section 1.3.

**Chart 5: Standing Results**



**Chart 6: Flushed Results**



## 5.0 Comparison of Facility Results: 2008 vs. 2007

The following table provides a comparative summary of water quality results for facilities in 2008 versus 2007. The results on Table 2 indicate that more facilities are now testing for lead, and that the number of facilities with lead levels below the standard for both flushed and standing samples has increased. This can likely be attributed to several factors, including improvements in sampling and flushing techniques, and corrective actions (e.g. upgrading plumbing components) taken in response to lead exceedances reported in 2007.

Table 2: Comparison of Water Quality Results for Facilities: 2008 vs 2007								
	2008				2007			
	Public Schools	Private Schools	Day Nurseries	All Facilities	Public Schools	Private Schools	Day Nurseries	All Facilities
Standing Samples								
# Samples Taken	5,619	672	2,927	9,218	3,691	283	3,024	6,998
# Facilities Reporting All Standing Samples Below the ODWQS (less than 10 µg/L)	3,863	487	2,140	6,490	2,658	236	2,602	5,496
% Facilities with All Standing Samples Less than 10 µg/L	85.2%	92.1%	93.9%	<b>88.4%</b>	72%	84%	90%	<b>80.3%</b>
Flushed Samples								
# Samples Taken	5,933	672	2,928	9,533	3,501	274	2,870	6,645
# Facilities Reporting All Flushed Samples Below the ODWQS (less than 10 µg/L)	4,330	513	2,233	7,076	3,177	260	2,676	6,113
% Facilities with All Flushed Samples Less than 10 µg/L	95.4%	97.2%	98.1%	<b>96.4%</b>	91%	95%	97%	<b>94.1%</b>

## 6.0 Conclusions

The results from the second year of sampling continue to demonstrate that the majority of facilities across the province had lead levels below the standard of 10 µg/L. Furthermore, the results continue to confirm flushing is an effective means of reducing lead in drinking water.

The 2008 results have shown some improvement in the understanding of regulatory requirements, including the submission and proper identification of standing and flushed samples, improved rate of sample submission by private school operators, and improvements in the submission of laboratory service notification forms that identify sampling laboratories. However, the ministry continues to strive towards improving both water quality and compliance among the regulated communities through education and outreach, including guidance material and sampling videos, targeted inspections, and enhanced information sessions.

If you have specific questions regarding lead testing results for a particular school, private school, or day nursery, please contact the facility operator. For general information on lead, including guidance material, visit the ministry's website at [www.ontario.ca/drinkingwater](http://www.ontario.ca/drinkingwater).

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